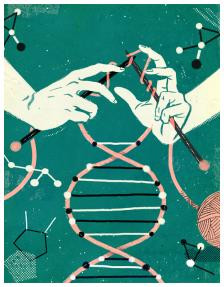
Epigenetics Guiding Questions



Instructions: *Type the answers to these questions on a separate page in full sentences while using information and concepts learned in class; if you find yourself needed more information to fully explain your thoughts, all questions can be answered by consulting the Epigenetics Module homepage through the University of Utah. A link will be provided in class. Questions can also be answered with information provided in the video or the photo set, so take notes*

1. What is the epigenome? How is it different from the genome?

2. Differences in physical features of identical twins often become more pronounced as they get older and can be reflected in changes to their DNA. Explain how and why this can happen using specific examples.

3. Lifestyle choices and your environment are known to affect how you age. Make a list of at least 4 factors you can think of that would result in changes to your genetic material,what the changes are, and how it is expressed.

4. Why are the roles of acetyl and methyl groups important in these changes? How do they alter DNA's structure??

5. Can these changes be reversed? Cite relevant methods and how they occur.

6. Describe how the quality of maternal care relates to the personality of her offspring. What gene is being affected and how? Can the rat's personality be changed if they were exposed to low quality care as a newborn?